

Appl. No. 10/667,960
Atty. Docket No. CM2631MC
Amdt. dated 06/14/2005
Reply to Office Action of 12/14/2004
Customer No. 27752

REMARKS

Amendments to the Claims

Claims 1-5 and 7-15 are pending in the present application. Claim 6 has been previously canceled. No additional claims fee is believed to be due.

Claims 1, 11, 13, and 14 have been amended as shown above to recite that the respective compositions comprise "greater than 2% to about 4%, by weight of the composition, of a chelant". Support for this amendment can be found at page 8, line 14 to page 9, line 12 of the specification.

It is believed these changes do not involve any introduction of new matter. Consequently, entry of these changes is believed to be in order and is respectfully requested.

Rejections Under 35 USC 102(b) Over US Patent No. 6,004,355 to Dias et al.

Claims 1, 8-10, and 15 remain rejected under 35 USC 102(b) as being anticipated by US Patent No. 6,004,355 to Dias et al. ("Dias"). As set forth in the Office Action of July 14, 2004, the Examiner asserts that Dias teaches a hair coloring composition comprising an oxidizing agent, conditioning agents such as silicones, and sequestrants (chelants) such as phosphonic acid derivatives, methyl cellulose as a thickener, and oxidative dye precursors, wherein the composition is an aqueous solution, and wherein the composition has a pH of 10. The Examiner also asserts that Dias teaches a kit comprising an oxidizing agent and one or more coloring agents. Thus, the Examiner concludes that Dias anticipates Applicants' claims. Applicants respectfully traverse the present rejection based on the following comments.

Applicants' claimed compositions are not anticipated by Dias because Dias fails to disclose with sufficient specificity each and every limitation of Applicants' claims. *See* MPEP 2131.03. As currently amended, Applicants' claim 1 recites a composition comprising an oxidizing agent, a conditioning agent selected from the claimed group, and *greater than 2% to about 4% of a chelant selected from phosphonic acid type chelants*, wherein the composition has a pH from about 9.5 to about 11.

Applicants' compositions containing chelants having a phosphonic acid moiety and at the claimed levels increase the deposition of conditioning agents on hair during or after an oxidative treatment, such as bleaching or dyeing, which is carried out using

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water-soluble inorganic peroxygen oxidizing agents in the pH range claimed by Applicants. This results in longer-lasting improved hair feel. It is believed that the phosphonic acid type chelants, when present at an amount in the claimed range, act to chelate environmental and intrinsic heavy metal ions which would otherwise react with the oxidizing agent to give harmful species, such as free radicals, which oxidize the disulfide bonds of hair in the pH range claimed by Applicants. It is further believed that non-cationic conditioning agents such as silicones deposit less efficiently on damaged hair. Therefore, the chelants, by reducing oxidative hair damage, increase the efficiency of the deposition of the conditioning agents.

In contrast to Applicants' claimed compositions, Dias discloses hair color compositions which comprise as required components a peroxygen oxidizing agent, an organic peroxyacid oxidizing aid, and oxidative hair color agents. As an optional component, Dias discloses generally that any one of a variety of heavy metal ion sequestrants (*i.e.*, chelants) may be included. However, Dias broadly discloses that the amount of chelants may range from about 0.005% to about 20%. Within this broad range, Dias specifically teaches that the level of chelants is more preferably from about 0.05% to about 2%. There is no teaching to select a range of greater than 2% to about 4% for the level of chelants, much less such a range for phosphonic acid type chelants as claimed. Moreover, every exemplified composition of Dias contains only 0.1% of a chelant, EDTA, which is not a phosphonic acid type chelant. Thus, one of ordinary skill in the art, taking the disclosure of Dias as a whole, would not clearly envisage a composition comprising a phosphonic acid type chelant as claimed in an amount ranging from greater than 2% to about 4%.

Accordingly, Dias fails to disclose Applicants' claimed range of greater than 2% to about 4% for the level of any chelant, let alone phosphonic acid type chelants, with sufficient specificity to constitute anticipation. Therefore, each and every element of Applicants' claim 1, as well as claims 8-10 and 15, which contain the limitations of claim 1, is not disclosed in Dias. As a result, Applicants' claims 1, 8-10 and 15 are novel over Dias.

Additionally, Applicants' claims are not obvious in view of Dias because Dias fails to provide any suggestion or motivation for a composition comprising greater than 2 wt.% to about 4 wt.% of a chelant selected from phosphonic acid type chelants as

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claimed. First, Dias broadly discloses a number of chelants as suitable optional components. While phosphonate chelants are among the list of numerous chelants disclosed, Dias provides no teaching or suggestion that phosphonate chelants are preferred over any of the other disclosed chelants. Second, although Dias broadly discloses that chelants may be present as an optional component at a level of about 0.005% to about 20%, Dias indicates that the preferred chelant level is from about 0.05% to about 2%. Moreover, every example composition in Dias comprises EDTA, which is not a phosphonic acid type chelant, at a level of 0.1%. Thus, there is no suggestion or motivation in Dias for a composition comprising greater than 2 wt.% to about 4 wt.% of a phosphonic acid type chelant.

Accordingly, Applicants' claims 1, 8-10, and 15 are novel and nonobvious over Dias.

Rejections Under 35 USC 103(a) Over US Patent No. 6,004,355 to Dias et al. in view of US Patent No. 3,542,918 to Berth et al.

Claims 2-5 remain rejected under 35 USC 103(a) as being unpatentable over US Patent No. 6,004,355 to Dias et al. ("Dias") in view of US Patent No. 3,542,918 to Berth et al. ("Berth"). As set forth in the Office Action of July 14, 2004, the Examiner asserts that Dias, as described above, teaches a hair coloring composition comprising an oxidizing agent, conditioning agents such as silicones, and sequestrants (chelants) such as phosphonic acid derivatives. The Examiner notes that Dias does not teach at least one of the chelants of the formulae (I) to (IV) and the species of Applicants' claims. However, the Examiner asserts that Berth teaches a composition comprising chelant compounds which are similar to Applicants' claimed chelants. Thus, the Examiner concludes that it would have been obvious to one of skill in the art to incorporate the chelants taught in Berth into the compositions of Dias because Berth discloses that aminopolyphosphonic acids and derivatives are used in hair treatment compositions to protect hair during bleaching and/or dyeing, and that such compositions would have similar properties to those claimed by Applicants, absent unexpected results. Applicants respectfully traverse the present rejection based on the following comments.

The combination of Dias and Berth does not teach or suggest all of Applicants' claim limitations and, therefore, does not establish a *prima facie* case of obviousness. See

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MPEP 2143.03. Applicants' claims 2-5 contain the limitations of claim 1. Applicants' claim 1, as currently amended, recites a composition comprising an oxidizing agent, a conditioning agent selected from the claimed group, and *greater than 2% to about 4% of a chelant selected from phosphonic acid type chelants as claimed*, wherein the composition has a pH from about 9.5 to about 11. As discussed above, Applicants' compositions containing chelants having a phosphonic acid moiety and at the claimed levels increase the deposition of conditioning agents on hair during or after an oxidative treatment, such as bleaching or dyeing, which is carried out in the pH range claimed by Applicants. This results in longer-lasting improved hair feel.

In contrast to Applicants' claimed compositions, both Dias and Berth fail to teach or suggest a composition comprising greater than 2 wt.% to about 4 wt.% of a chelant selected from phosphonic acid type chelants. As discussed above, even though Dias broadly discloses that chelants may be present as an optional component at a level of about 0.005% to about 20%, Dias indicates that the preferred chelant level is from about 0.05% to about 2%. Further, every example composition in Dias comprises a chelant at a level of only 0.1%. Likewise, while Berth broadly discloses that polyphosphonic acids and derivatives thereof may be used at a level of 0.1% to 10%, Berth teaches that the preferred level is 0.1% to 2%. As in Dias, the composition of Example 1 of Berth comprises only 0.1% of a chelant, which in Berth is an acylation product of phosphorous acid.

Additionally, and most notably, after Berth states that the preferred level is 0.1% to 2%, Berth specifically teaches that "[l]arger quantities can be used, however, it has been found that *no practical advantages are gained thereby*" (emphasis added). See column 3, lines 2-3 of Berth. Thus, despite the broad ranges disclosed in Dias and Berth, one of ordinary skill in the art would not be motivated to use a polyphosphonic acid chelant at a level of greater than 2% in view of Berth's specific teaching that there are no advantages in doing so.

The combination of Dias and Berth does not establish a *prima facie* case of obviousness for Applicants' claims 2-5. Accordingly, Applicants' claims 2-5 are novel and nonobvious over the combination of Dias and Berth.

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Rejections Under 35 USC 103(a) Over US Patent No. 6,004,355 to Dias et al. in view of US Patent No. 4,138,478 to Reese et al.

Claim 7 remains rejected under 35 USC 103(a) as being unpatentable over US Patent No. 6,004,355 to Dias et al. ("Dias") in view of US Patent No. 4,138,478 to Reese et al. ("Reese"). As set forth in the Office Action of July 14, 2004, the Examiner asserts that Dias teaches hair coloring compositions, as described above, wherein the compositions are thickened aqueous compositions. The Examiner acknowledges that Dias does not teach a hair treatment composition in the form of an oil-in-water emulsion.

The Examiner then asserts that Reese teaches a hair bleaching or dyeing composition wherein the composition is in the form of a fluid bath, dry powder, paste, cream emulsions of oil-in-water. The Examiner further asserts that Reese also teaches hair color composition which comprises an oxidizing agent and a diphosphonic compound. Thus, the Examiner concludes that it would have been obvious to one of skill in the art to formulate the composition of Dias in the form of an oil-in-water emulsion as taught by Reese because Reese describes different forms of hair treating compositions. Applicants respectfully traverse the present rejection based on the following comments.

The combination of Dias and Reese does not teach or suggest all of Applicants' claim limitations and, therefore, does not establish a *prima facie* case of obviousness. See MPEP 2143.03. Applicants' claim 7 contains the limitations of claim 1. Applicants' claim 1, as currently amended, recites a composition comprising an oxidizing agent, a conditioning agent selected from the claimed group, and *greater than 2% to about 4% of a chelant selected from phosphonic acid type chelants as claimed*, wherein the composition has a pH from about 9.5 to about 11. As discussed above, Applicants' compositions containing chelants having a phosphonic acid moiety and at the claimed levels increase the deposition of conditioning agents on hair during or after an oxidative treatment, such as bleaching or dyeing, which is carried out in the pH range claimed by Applicants. This results in longer-lasting improved hair feel.

In contrast to Applicants' claimed compositions, both Dias and Reese fail to teach or suggest a composition comprising greater than 2 wt.% to about 4 wt.% of a chelant selected from phosphonic acid type chelants. As discussed above, even though Dias broadly discloses that chelants may be present as an optional component at a level of about 0.005% to about 20%, Dias indicates that the preferred chelant level is from about

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0.05% to about 2%. Further, every example composition in Dias comprises a chelant at a level of only 0.1%. Likewise, while Reese broadly discloses that diphosphonic compounds may be used at a level of 0.01% to 10%, Reese teaches that the preferred level is 0.1% to 2%. As in Dias, the compositions of Examples 1, 2, and 3 of Reese comprise only 0.1% of a chelant, which in Reese is a diphosphonic compound.

Additionally, and most notably, after Reese states that the preferred level is 0.1% to 2%, Reese specifically teaches that "[l]arger amounts can be used if desired . . . but *such larger amounts provide virtually no advantage*" (emphasis added). See column 3, lines 19-26 of Reese. Thus, despite the broad ranges disclosed in Dias and Reese, one of ordinary skill in the art would not be motivated to use a phosphonic acid chelant at a level of greater than 2% in view of Reese's specific teaching that there are no advantages in doing so.

Further, although Reese discloses that its compositions may be in the form of an emulsion, one of skill in the art would not be motivated to formulate the composition of Dias into an emulsion because the peroxyacid oxidizing aids of Dias, which are required components of the compositions of Dias, are difficult to solubilize, especially in an oil-in-water emulsion.

The combination of Dias and Reese does not establish a *prima facie* case of obviousness for Applicants' claim 7. Accordingly, Applicants' claim 7 is novel and nonobvious over the combination of Dias and Reese.

Rejections Under 35 USC 103(a) Over US Patent No. 6,004,355 to Dias et al.

Claims 11-14 remain rejected under 35 USC 103(a) as being unpatentable over US Patent No. 6,004,355 to Dias et al. ("Dias"). As set forth in the Office Action of July 14, 2004, the Examiner asserts that Dias teaches methods for coloring hair comprising the steps of applying compositions that comprise an oxidizing agent, oxidation dye precursors, conditioning agents, and chelating agents of phosphonic acid derivatives. The Examiner acknowledges that Dias does not teach Applicants' claimed methods with sufficient specificity to constitute anticipation of the claims. However, the Examiner asserts that it would have been obvious to one of skill in the art to use the methods of Dias with a composition that comprises similar ingredients to the compositions of Dias. Applicants respectfully traverse the present rejection based on the following comments.

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Dias does not teach or suggest all of Applicants' claim limitations and, therefore, does not establish a *prima facie* case of obviousness. See MPEP 2143.03. As currently amended, Applicants' claims 11-14 respectively recite a method which requires, *inter alia*, contacting hair in one step with a composition comprising an oxidizing agent, and contacting hair in another step with a composition comprising *greater than 2% to about 4% of a chelant* selected from phosphonic acid type chelants. Applicants' methods, which involve applying compositions containing chelants having a phosphonic acid moiety and at the claimed levels, result in an increase in the deposition of conditioning agents on hair during or after an oxidative treatment, such as bleaching or dyeing, which is carried out in the pH range claimed by Applicants. This results in longer-lasting improved hair feel.

In contrast to Applicants' claimed methods, Dias fails to teach or suggest a method which comprises applying to hair a composition comprising greater than 2 wt.% to about 4 wt.% of a chelant selected from phosphonic acid type chelants. As discussed above, while Dias broadly discloses that chelants may be present as an optional component at a level of about 0.005% to about 20%, Dias indicates that the preferred chelant level is from about 0.05% to about 2%. Moreover, every example composition in Dias comprises chelant at a level of 0.1%. Thus, there is no suggestion or motivation in Dias for a method which comprises applying a composition comprising greater than 2 wt.% to about 4 wt.% of a phosphonic acid type chelant.

Accordingly, Applicants' claims 11-14 are novel and nonobvious over Dias.

CONCLUSION

In light of the amendments and remarks presented herein, it is requested that the Examiner reconsider and withdraw the present rejections. Early and favorable action in the case is respectfully requested.

Applicant has made an earnest effort to place their application in proper form and to distinguish the invention as now claimed from the applied references. In view of the foregoing, Applicant respectfully requests reconsideration of this application, entry of the amendments presented herein, and allowance of Claims 1-5 and 7-15.

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Respectfully submitted,

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